BYTE STREAM ORGANIZATION WITH IMPROVED RANDOM AND KEYED ACCESS TO INFORMATION STRUCTURES

ABSTRACT

The invention improves processing time when accessing information in a byte stream and avoids the step of deserializing unneeded portions of the byte stream when the byte stream encodes an information structure corresponding to a schema with arbitrarily nested lists and tuples. It facilitates efficient keyed access when lists of tuples represent tables with key columns by storing tables in *nested column order,* which extends the well-known concept of column-order so as to apply to arbitrarily nested tables. Using well-known offset calculation techniques within the nested lists that result from nested column order, the invention achieves greater efficiency by grouping together all scalar information items that correspond to the same node in a tree representation of the schema.